



In the Supreme Court of the United States

OCTOBER TERM, 1942.

No.

THE SWAN CARBURETOR COMPANY,

Petitioner and Appellant Below,

vs.

CHRYSLER CORPORATION,

Respondent and Appellee Below.

BRIEF IN SUPPORT OF PETITION.

I.

The Opinions of the Courts Below.

The opinion in the Sixth Circuit Court of Appeals is reported in *The Swan Carburetor Company v. Chrysler Corporation*, 130 Fed. (2d) 391 (advance sheets) and is found at R. Vol. V, p. 1851. The findings and conclusions of the District Court are reported in 34 Fed. Supp. 766 and are found at R. Vol. V, p. 1822.

II.

Jurisdiction.

Petitioners would invoke the jurisdiction of this Court under 28 U. S. C. 347 (Sec. 240 (a) of the judicial code as amended by the act of February 13, 1925). The decree of the Sixth Circuit Court of Appeals was entered June 29, 1942 (R. Vol. V, page 1851). A petition for rehearing was denied October 6, 1942 (R. Vol. V, page 1903). This petition is presented within three months from and after the denial of the petition for rehearing. This case is a suit for patent infringement brought under 28 U. S. C. 109; the decree below dismisses the Bill of Complaint (R. Vol. V, pages 1832, 1851).

III.**Statement of the Case.**

A sufficient statement of the case, so far as the questions involved and the reasons relied upon are concerned, is contained in the petition under the heading "Summary Statement of the Matter Involved."

IV.**Specification of Errors.**

The Sixth Circuit Court of Appeals erred:

- (1) In holding that the prior art may be modified to change its mode of operation and results and used to place a limitation upon the claims of the patent in suit.
- (2) In permitting respondent to re-litigate the issue of validity of claims 4, 5, 8, 9, 10 and 22 held valid in an unreversed decree against a privy of respondent.
- (3) In holding that the method defined in claims 4, 5, 8, 9 and 10 is a method "consisting entirely of mechanical transactions."
- (4) In holding that the method claims 4, 5, 8, 9 and 10 are invalid for indefiniteness in not stating what the forces are nor how they operated.
- (5) In holding that claim 22 is invalid because one of the elements of the combination is defined in functional terms.
- (6) In failing to hold that the invention of patent No. 1,536,044 is a pioneer invention entitled to a broad range of equivalents.
- (7) In failing to give to the findings of fact of the Special Master in the *Reeke-Nash* case, which were adopted by the District Court, the weight and credit to which they are entitled under Rule 52, Rules of Civil Procedure.

V.

Summary of the Argument.

Point A. There is conflict between the various courts below as to whether the prior art may be modified to limit or defeat the patent.

Point B. The decision of the Sixth Circuit Court of Appeals that the prior art may be modified and then used to impose a limitation on the patent in suit is in conflict with the decisions of the Second Circuit Court of Appeals in *Babcock v. Springfield*, 16 Fed. (2d) 964 and *Consolidated v. Window*, 261 Fed. 362, and in conflict with the Eighth Circuit Court of Appeals, *Goessling v. Gumb*, 241 Fed. 674.

Point C. The holding of non-infringement by the court below is in conflict with the fact findings of a neutral expert, a jury, two masters and one district judge who saw tests of comparable manifolds.

Point D. The Sixth Circuit Court of Appeals is at variance with the Second Circuit Court of Appeals in *Stevens v. Schmid*, 73 Fed. (2d) 54, and the Ninth Circuit Court of Appeals in *Diamond v. Webster*, 249 Fed. 155, as to the weight to be given to findings based on actual observation of tests.

Point E. The decision of the Sixth Circuit Court of Appeals as to the effect and operation of the hot spot heating device is in conflict with the findings and decision in all of the other suits on the Swan patent No. 1,536,044.

Point F. The ruling of the Sixth Circuit Court of Appeals permitting respondent to re-litigate the issue of validity of claims 4, 5, 8, 9 and 10, held valid in an unversed decree against a privy of respondent, is in conflict with the fundamental purpose of the doctrine of *res judicata* and with the reasoning of this Court in *City of Aurora v. West*, 7 Wall. 82 and *Durant v. Essex*, 7 Wall. 107.

Point G. The Sixth Circuit Court of Appeals, in holding claims 4, 5, 8, 9, 10 and 22 invalid because of their form differed with the decision of the master and the District Court holding these claims valid in the *Reeke-Nash* case, and with the Patent Office which suggested the form of the claims.

Point H. The decision of the Sixth Circuit Court of Appeals that the method claims in suit consist solely of mechanical transactions and are merely for the function of a machine is in conflict with this Court's decisions in *Cochrane v. Deener*, 94 U. S. 780; *Eames v. Andrews*, 122 U. S. 40; and *Fermentation v. Maus*, 122 U. S. 413.

Point I. The decision of the court below that the method claims in suit are invalid for indefiniteness is an erroneous extension of this Court's decision in *General Electric v. Wabash*, 304 U. S. 364, and in conflict with other decisions of this Court sustaining similar method claims.

Point J. The ruling of the Sixth Circuit Court of Appeals that claim 22 is invalid because one element is defined in functional terms is in conflict with the rule followed in the Second and Seventh Circuit Courts of Appeals.

Point K. The courts below are in conflict as to whether or not patent No. 1,536,044 is for a pioneer or primary invention.

Point L. The failure of the Court of Appeals in this case to accord any weight to the findings in the *Reeke-Nash* case on the same issues against a privy of defendant is an erroneous interpretation of Rule 52, Rules of Civil Procedure.

A R G U M E N T.

The importance of the invention covered by the Swan patent No. 1,536,044 in suit is attested by the fact that already it has been in litigation for sixteen years. The magnitude of the fight that has been waged to defeat the patentee by the gigantic patent pool, the National Automobile Chamber of Commerce, and its members, as well as the evils which result from failure to adhere strictly to the rules of *res judicata*, are shown by the fact that the record in this case consists of five volumes of new testimony and exhibits plus the five volumes of record in the *Reeke-Nash* case (Plaintiff's Exhibits 27A to E, inclusive) most of which was re-offered in this case, plus two volumes of the record in the Fourth Circuit case, *Swan v. Nash*, Defendant's Exhibits 93 and 93A, much of which was re-offered in this case.

It is inevitable in such extensive litigation that many differences would arise between the various tribunals. One of these differences, on which the decision of the court below is believed to constitute an erroneous and dangerous precedent, is the question of law as to whether or not the prior art may be modified to change its operations and results and used to limit or defeat the patentee.

POINT A.

The conflict between the courts below in ruling on this question is shown by the following excerpts:

The Special Master in *Swan v. Reeke-Nash* held (Appendix, pp. 54-55, II R. N. 1154-1155):

"The Fiat manifold (Defendant's Ex. 272) with the testimony of Rowan (Trans. 1480-81, 1490) shows efforts to correct fuel distribution, failure, and that the Italian experts were called to remedy trouble with the manifold, which efforts were unsuccessful. The most that can be said for the Fiat manifold is that, as

*modified by the witness, it can only rate as one of several prior efforts and failures to do what Swan did.**

* * * * *

The Matheson manifold is also one of the 76 manifolds illustrated in the Tice article in which he says that they fail to effect equal distribution, and commented upon the inability of the devices of the then existing manifold art to equally distribute the fuel mixture. The faults of the Matheson manifold were testified to by several witnesses. * * * *The Matheson manifold, like the others, must rate as a prior effort and failure instead of a device anticipating the Swan invention.*"

In affirming, the Sixth Circuit Court of Appeals held, 88 Fed. (2) 886:

"The Murray and Tregurtha manifold has heretofore been discussed in the royalty case. It did not perform according to the Swan principle, and its distribution was faulty. This is equally true of Matheson, Peerless and Fay & Bowen, which must rank as prior efforts and failures."

These findings are not contested by respondent and, in any event, are binding under the doctrine of *res judicata*. The neutral expert appointed by the District Court in the Fourth Circuit case agreed that Matheson failed to achieve Swan's results, but concluded that it could have been made to do so by modification to increase the mixture velocity and incorporate Swan's mode of operation.

JUDGE COLEMAN in the District Court in Baltimore refused to accept the evidence of what might have been done in the light of Swan's invention as modifying the proof of the actual failure of the prior art. He said, in *Swan v. Nash*, 25 Fed. Supp. 24, 30, 34:

"when we turn to the matter of results, Professor Christie, whose testimony, especially on this phase of the case, is believed to be of great probative weight

* Emphasis ours throughout.

because he testified without the slightest bias that might attend an advocate, stated that he thought substantially the same results *would* have been obtained as were obtained with the Nash accused device, *had the Matheson device, constructed precisely as known to the courts in the previous litigation, been capable of operation with substantially the same velocities and the same rates of flow, and had it been so operated. However, this is a speculation, not even an asserted, much less an established, fact.* * * *

This coincides with the proof as to Matheson that has been adduced in the present case, because, just as in the previous litigation, there is no proof that Matheson's device as constructed and used at the time Swan conceived and patented his device, was in fact other than an unsuccessful effort at equal distribution as then and still understood, notwithstanding speculative evidence to the contrary as a result of tests made upon so called Matheson devices of definitely modified design. *Clearly, such unsuccessful effort is not anticipation, as understood in the patent law. If it were, an inventor's success would no longer be 'his title to consideration.'* See Diamond Rubber Company v. Consolidated Rubber Tire Co., *supra*, page 437, 31 S. Ct. 444."

The majority of the Court of Appeals in the Fourth Circuit accepted the evidence of the success of present day modifications as overcoming the failure of the actual prior art device. They said in *Nash v. Swan*, 105 Fed. (2) 305, 310:

"The evidence before us does not justify the finding that the Matheson manifold was a prior effort and failure. The performance of the second Nash manifold is proof to the contrary."

JUDGE PARKER in his dissenting opinion in that case said, page 311:

"The finding of non-infringement is in direct conflict with a finding in one of the last General Motors cases affirmed by the Sixth Circuit, 88 F. 2d 876; and its

effect is that, while paying lip service to the validity of the patent, we in effect nullify it, and do so on the basis of the supposed resemblance of the accused device to a structure in the prior art, which had proven a failure and over which the device of the patent in suit had made an improvement of great value. With all respect to the opinion of my brethren, I feel constrained to dissent from their decision."

The Sixth Circuit Court of Appeals, in the instant case, while recognizing that the prior art may not be reconstructed in the light of the Swan invention to make out an anticipation, accepted the evidence of the modified Matheson and Fiat devices as justifying infringement. That court said (R. Vol. V, p. 1856) :

"Since appellee does not claim that Matheson and Fiat anticipate Swan, but merely that appellee follows Matheson and Fiat rather than Swan, the authorities urged upon us to the effect that an improved prior art cannot under the decisions be held to anticipate Swan, have no bearing."

In *Swan v. General Motors*, 43 Fed. Supp. 499, JUDGE NEVIN refused to accept the evidence of the operation and results of present day modifications of the prior art devices as limiting petitioner's claims or justifying infringement. He said, page 503:

"Plaintiff further urges that the Special Master has, by his findings and rulings, in effect, found that the same prior art, which was found to be failure in the prior actions, can be taken in this action to be successful, i.e. to substantially equal Swan and the 'other accused' manifolds in purpose, accomplishment and results, * * *

* * * * *

Upon the record, the court feels bound to conclude that plaintiff is right in its contention, and that the Special Master has erroneously given all the attributes of success to the same prior art devices which have been heretofore adjudged to be failures.

Plaintiff says in its brief: 'Every ruling against the plaintiff is predicated upon the cardinal error of disregarding the controlling findings in the prior actions, and thereby employing "prior effort and failure" to force limitations, newly conceived by the Master, into Swan's patent claims, where they did and do not exist, all in order to spell out "non-infringement" herein. Such is not the law,' (citing) Diamond Rubber Co. v. Consolidated Rubber Tire Co., 220 U. S. 428, 431, 31 S. Ct. 444, 55 L. Ed. 527; Keystone Mfg. Co. v. Adams, 151 U. S. 139, 14 S. Ct. 295, 38 L. Ed. 103; Consolidated Window Glass Co. v. Window Glass Mach. Co., 3 Cir., 261 F. 362. *With the foregoing statement the court agrees.*'

The General Motors Corporation has settled with Petitioner and obtained a paid up license, so that the foregoing decision is final in the *General Motors* litigation.

To summarize, the courts in the Sixth Circuit in all the *General Motors* cases and in the *Reeke-Nash* case have held that the prior art must be considered as it existed and was used prior to the invention of the patent in suit. There is no dispute that the prior art so considered was faulty in distribution and failed to solve the wet mixture problem which is solved by the patent in suit. The majority of the Court of Appeals in the Fourth Circuit held that the proof as to the actual failure of the prior art could be overcome by proof of successful operation of present day modifications. The District Court in Baltimore and the dissenting circuit judge held the contrary. In the instant case the Sixth Circuit Court of Appeals did not follow the majority in the Fourth Circuit and adhered to their former view that the prior art, exemplified by Matheson and Fiat, was a failure in the effort to solve the wet mixture problem. However, the Court of Appeals in the instant case permitted the respondent to modify the prior art to impose a limitation on the patent in suit and thereby escape infringement, distinguishing from the decisions of this Court refusing to permit such modification of the prior art on

the ground that the modified art was not being urged to anticipate. JUDGE NEVIN in the last *General Motors* decision, which has terminated that litigation, refused to follow this rule, accepting instead the rule in the Second and Eighth Circuits that the prior art may not be modified either for anticipation or to impose a limitation on the patent in suit.

POINT B.

The Sixth Circuit Court of Appeals agreed with the established rule that the prior art cannot be modified in the light of the invention of the patent in suit to make out an anticipation, but held that the respondent could modify the prior art and compare the accused device with the modified prior art, or in other words that modification is permissible to impose a limitation on the patent in suit.

This ruling is directly contrary to the rulings of the Second Circuit Court of Appeals and the Eighth Circuit Court of Appeals.

In *Babcock v. Springfield*, 16 Fed. (2) 964 the Court of Appeals for the Second Circuit said (p. 969):

"Prior patents, none of which solved the problem, **can have no effect** in anticipating, **qualifying**, or defeating the claims for patent protection of those whose subsequent effort produced success. *Consolidated Window Glass Co. v. Window Glass Machine Co.* (C. C. A.) 261 F. 362."

In *Consolidated v. Window*, 261 Fed. 362 the same Court said (pp. 368-369):

"It follows, also, that these prior patents, none of which solved the problem of machine-drawn window glass, **should have no effect** in anticipating, **qualifying**, or defeating the claims for patent protection of those whose subsequent effort actually produced machine-drawn window glass. **Nor should these earlier, but abortive, attempts which resulted in absolutely nothing, shield and protect from infringement and accounting those**

who copied not the abortive failures, but the successful steps of the originators of machine-drawn glass."

In *Goessling v. Gumb*, 241 Fed. 674, the Court of Appeals in the Eighth Circuit said (p. 677):

"A mechanical device or combination, which was not designed by its maker, nor actually used, nor apparently adapted to perform the function of a patented device or combination, but which was discovered in a remote art, where it was conceived and used under radically different circumstances to perform another function, **neither anticipates nor limits the scope of the patent.** Ansonia Brass & Copper Co. v. Electrical Supply Co., 144 U. S. 11, 18, 12 Sup. Ct. 601, 36 L. Ed. 327; Topliff v. Topliff, 145 U. S. 156, 161, 12 Sup. Ct. 825, 36 L. Ed. 658; Potts v. Creager, 155 U. S. 597, 608, 15 Sup. Ct. 194, 39 L. Ed. 275; National Hollow Brake-Beam Co. v. Interchangeable Brake-Beam Co., 106 Fed. 693, 702, 45 C. C. A. 544, 553."

The changes permitted are (R. Vol. II, p. 736, Vol. III, pp. 916-921, 927, 930-931, 984-985):

Original Matheson.
Defendant's solid and window reproductions thereof.
Used on Matheson engine.

1. Goose neck carburetor and erratic curved presentation of mixture to and through the riser.

2. Flared asymmetrical riser top in updraft form causes slowing down of mixture, falling back of liquid and running down curved walls. Gravity opposes lifting of liquid into zone against low mixture speed.

3. Low velocities and large radii.

Modified Matheson.
Defendant's Ex. 101.
Used on 1940 Plymouth Automobile.

1. Straight carburetor throat and riser and straight line movement of the mixture in the riser toward center zone.

2. In downdraft form gravity aids movement of liquid toward zone in conjunction with higher mixture speed.

3. Velocity increased and radius decreased from original Matheson.

Original Matheson.

4. V^2R insufficient to prevent "cream separator" effect with liquid particles favoring one cylinder or one end of the header more than the other.

5. Branches are shorter than the diameter and short relative to the radius of the adjoining curve.

6. Lower ratio of surface area to volume in manifold of very large volume and surface area.

7. Large total surface area will delay accelerations of liquid fuel.

8. Walls opposite riser and middle branch non-recessed.

9. Poor accelerations and very uneven running and backfires when accelerating both with and without heat applied to the manifold. Full sized Matheson manifold definitely inferior to Swan (Ex. 183) in power and economy (Ex. 185).

10. Branches do not register with cylinder ports, but are larger, so that velocity in manifold is less than normal mixture velocity through engine ports.

Modified Matheson.

4. V^2R at all turns is greatly increased causing remixing of liquid and gaseous parts of mixture as distinguished from "cream separator" effect.

5. Branches are long relative to diameter and radius of adjoining corner.

6. Ratio of surface area to volume is larger and helps scrubbing action and vaporization of wall liquid and helps move wall liquid relatively faster in smaller manifold.

7. Small total surface area requires less liquid to wet the walls on accelerations.

8. Walls opposite riser and middle branch recessed slightly as in accused and preferred form of Swan.

9. Good performance on the road through quite a large range of mixture temperatures and speeds when tested on defendant's road tests.

10. Branches register with intake ports as disclosed in Swan specification and claim so that maximum mixture velocity is maintained in the manifold.

POINT C.

The Sixth Circuit Court of Appeals correctly stated the issue on infringement to be (R. Vol. V, p. 1856) :

"Nor does the presence of liquid fuel in appellee's fuel mixture at certain times establish infringement as contended.* The controlling question is whether appellee's devices equally distribute the fuel mixture by use of the Swan invention."

As to claim 13, the decision of the Court of Appeals is that the distributing chambers in respondent's manifolds, formed by walls whose intersections form lines straight in one plane but curved in another (because the passages are round instead of square in cross-section) do not come within the limitation to "a distributing chamber formed of walls the intersections of which form straight lines," which is one of the elements of the combination claimed. As to claim 23, the decision below is that the limitation to "outlet branches being angularly formed to register with the intakes of pairs of cylinders" which is one of the elements of the combination of this claim, must be limited to angular formations which are sharp on the inside corners.

In these rulings the Court of Appeals differs with all of the other tribunals which have ruled upon these claims. The Special Master, Mr. Woods, in *Swan v. Reeke-Nash* held (II R. N. 1119; Appendix, p. 19) :

"Such differences in structure, as may be found to exist in one or more of defendant's manifolds as compared with the preferred form of the patented manifold by reason of defendant's use of round construction as distinguished from square construction, or by reason of defendant's use of slightly rounded inside corners instead of sharp right angle inside corners, or

* It was not our contention that the fact that liquid fuel is distributed by respondent's manifolds establishes infringement, but that this fact disposes of the District Court's holding of non-infringement.

by reason of defendant's use of curved or partly curved walls at the ends of the header and opposite the riser, are immaterial in that such departures as defendant has made in the structure of its manifolds, here charged to infringe, do not effect any substantial or material difference in function, mode of operation, or results in such manifolds as compared with the patented manifolds or the preferred form of the patented manifolds, and such differences as may be found are immaterial in that the effect of such changes and the extent of such differences are merely in matter of degree and are not differences in kind or substance."

One of the manifolds held to infringe in *Swan v. Reeke-Nash* is illustrated in Fig. V of the chart at the back of this brief. The remainder are shown at III R. N. pp. 1339-1351, inc.

In *Reeke-Nash v. Swan*, 88 Fed. (2d) 876, the Court of Appeals of the Sixth Circuit said, page 887:

"It is true that claims 11, 12 and 13 of this patent describe 'walls the intersections of which form straight lines,' but the remaining claims are not thus restricted.

Whether or not patent No. 1,536,044 described a pioneer invention, as in effect held in the General Motors Case (42 F. (2d) 452), under the specifications, which are to be read with the claims, though they may not expand or limit them, Swan is entitled to a range of equivalents broad enough to cover appellant's manifolds. Cf. *Bishop & Babcock Mfg. Co. v. Fulton Co.*, 37 F. (2d) 293 (C. C. A. 6). This is true even as to claims 11, 12 and 13, in which, as in the other claims, the gist of the inventive concept was the creation of the maximum turbulence as above described, not restricted to any particular form. Cf. *United Shoe Machinery Corp. v. O'Donnell Rubber Products Co.*, 84 F. (2d) 383 (C. C. A. 6)."

This same question as to whether the departure of the wall intersections in the distributing chamber from straight lines, due to the use of round passages, avoided infringement was decided in the negative by Judge Westenhaver

in *Swan v. General Motors*, 42 Fed. (2d) 452, and by the jury in the second *General Motors* case (see 88 Fed. (2d) 883). These same issues were submitted to and decided by a commissioner before submission to the jury in the second *General Motors* case. The commissioner's report holding that manifolds with round cross sections and rounded end bends infringe is reproduced in R. Vol. IV, pages 1375 to 1472, inclusive. Two of the manifolds held to infringe by the commissioner and the jury are illustrated in Figs. II and III in the chart at the back of this brief.

The neutral expert and the District Court in *Swan v. Nash* also held that such structural modifications which do not change the operations or results do not avoid infringement. The District Court said, 25 Fed. Supp. 31 to 32:

"Second, the top of the chamber over the riser in all of the varieties of the Nash accused devices is also like Matheson, namely rounded; and, also like Matheson, those varieties have wide or rounded curves at the bottom of the two right and left exits from this chamber, but have a sharper curve into the center branch or outlet, as opposed to a sharp corner at the bottom of all three exits of the chamber in the Nash adjudicated device; and in at least some of the adjudicated devices the tops of this chamber are of different construction. *We adopt Professor Christie's view that such features are rather inconsequential variations and such as are permissible under the Swan patent.*"

JUDGE NEVIN, in *Swan v. General Motors*, 43 Fed. Supp. 499, affirmed the finding of the master in that case that the manifold shown in Fig. IV of the chart at the end of this brief infringes the patent in suit.

POINT D.

The Sixth Circuit Court of Appeals held (R. Vol. V, p. 1854) :

"We think that under this record the court's absence from the tests in no way impairs the validity of its conclusions as to their significance. Since both parties admit that substantially identical performance was secured under all the *inter partes* tests,* and since the District Court's findings emphasized this fact, the circumstance that the District Court was absent when the tests were conducted is immaterial."

The Court of Appeals recognized, however (R. Vol. V, p. 1856) :

"The controlling question is whether appellee's devices equally distribute the fuel mixture by use of the Swan invention."

Thus this branch of the issue of infringement was determinable by observation of the tests.

Petitioner urged upon the Court of Appeals the findings of the Special Master in the *Reeke-Nash* case (Appendix, p. 12) of JUDGE WESTENHAVER in *Swan v. General Motors*, 42 Fed. 452, and the neutral expert in *Swan v. Nash*, 25 Fed. Supp. 24, all based upon actual observation of tests of comparable manifolds. The Court of Appeals accorded no weight to these findings.

* This is correct only as to the comparisons made at each test. It is agreed that the accused manifolds, the Swan manifold, and the adjudicated Reeke-Nash manifolds gave identical results when compared. Respondent's tests showed identical results between the accused manifolds and the modified prior art in one comparison, and in another comparison, similar results between the original prior art and an *impaired* Swan manifold. But petitioner did not, and does not, agree that the results in these two latter sets of tests were the same. The accused and the modified prior art manifolds showed equal distribution; the original prior art and the impaired Swan showed unequal distribution.

In *Stevens v. Schmid*, 73 Fed. (2d) 54, the Second Circuit Court of Appeals said, p. 55:

"The District Judge saw the defendant operate a model of the Hadfield machine and stated that it did not produce a satisfactory bead. On such a question his finding is entitled to full weight."

In *Diamond v. Webster*, 249 Fed. 155, the Ninth Circuit Court of Appeals said, p. 158:

"In such a case, the trial court having the advantage of seeing and especially examining the material which it is claimed infringes, an appellate court, without such advantage, will not disturb the conclusion reached, unless it appears clearly that the finding is against the obvious weight of the testimony."

See also

Reinharts vs. Caterpillar, 85 Fed. (2) 628, 630,

C. C. A. 9;

Wilkie vs. Santly, 91 Fed. (2) 978, 979-980, C. C.

A. 2.

POINT E.

The diversity of decision of the courts below with respect to the "hot spot" is illustrated by Figs. 1 to 5, inclusive, in the chart at the end of this brief. Fig. 1 shows a specimen of the accused manifolds, the hot spot being indicated in red. This is merely a jacket around the center of the header of the manifold through which some of the exhaust gases of the engine are directed to supply heat to the mixture.

Figs. 2 and 3 show two of the forms of manifolds which were held to infringe the patents in suit by Mr. Woods as commissioner, R. Vol. IV, page 1375, and by the jury in the case affirmed by the Sixth Circuit Court of Appeals, *General Motors v. Swan* (88 Fed. (2d) 876). The hot spots are identical with the hot spot in the accused manifold.

Fig. 4 shows one of the forms of manifolds held to infringe by JUDGE NEVIN, 43 Fed. Supp. 499. Again the hot spot is identical with the hot spot in the accused manifold.

Fig. 5 shows one of the forms of manifold held to infringe by the Special Master, Mr. Woods, in the *Reeke-Nash* case, whose findings were adopted by the District Court (R. Vol. I, p. 19) and affirmed by the Sixth Circuit Court of Appeals (88 Fed. (2d) 876).

The manifolds shown in each of Figs. II, III, IV, and V were held to infringe the patent in suit. In each instance the hot spots, the heat, its application and the manner of its use were identical with the accused manifolds. All were used on the same kind and type of engine and with the same fuel as the accused manifold.

In all of the other suits on the Swan patent the accused manifolds included heating means, such as hot spots and the like, and all of the other tribunals have differed with the Court of Appeals in the instant case as to the effect of these heating means. In *Swan v. General Motors*, 42 Fed. (2d) 452, JUDGE WESTENHAVER said, page 457:

“Defendant has adopted and uses a Marvel heater surrounding the riser. It contends that the mixture is completely vaporized while passing through this heated zone, and hence that the problem of mixing and vaporizing in the header and branches, which Swan sought to solve, is not only not involved, but is solved in another and different manner. * * *

Defendant, to support its contention that the mixture is thus fully vaporized by its Marvel heater, and that no wet mixture is left involving any problem of further vaporization or distribution, made a test in my presence at the White Motor plant of one of its engines. The results of this test did not carry full conviction. *Admittedly, under certain conditions of starting and load and speed, the mixture was foggy and even wet.* Moreover, the manifold and exhaust immediately became red hot, much beyond any temperature conditions to be expected in operation.”

In *Swan v. Reeke-Nash* the Special Master stated one of the contentions of the defendant there to be (II R. N., pages 1144 to 1145; Appendix pages 44 to 45):

"That such equality of distribution as has been obtained by Swan has been due to the application of heat on the exhaust jacket which has produced evaporation in the riser, * * *"

At the same page he disposed of this contention from his own observation.

"The motion pictures show particles of the mixture striking the roof of the header opposite the riser (plaintiff's Exs. 117-123 incl.). Even if this be only a part of the mixture, yet it is in the method of the patent and is a phenomena described by Swan and one which has been shown in all tests heretofore made.

The stroboscopic demonstrations on the glass manifold at the White Plant showed the liquid particles hitting the roof of the header opposite the riser, and liquid particles were also seen hitting the roof of the header opposite the riser at the road demonstration, with a glass manifold on plaintiff's test car."

POINT F.

The doctrine of *res judicata* is a rule of fundamental and substantial justice. Litigants are entitled to their day in court and having had it they are foreclosed from imposing upon the courts the burden of re-litigating and re-deciding the matters decided in the first case. In *Hart Steel v. Railroad Supply Company*, 244 U. S. 294, this Court said, page 299:

"This doctrine of *res judicata* is not a mere matter of practice or procedure inherited from a more technical time than ours. It is a rule of fundamental and substantial justice, 'of public policy and of private peace,' which should be cordially regarded and enforced by the courts to the end that rights once established by the final judgment of a court of competent jurisdiction shall be recognized by those who are bound

by it in every way, wherever the judgment is entitled to respect. Kessler v. Eldred, *supra*."

The final decree of April 30, 1934 against a privy of respondent (R. Vol. I, pages 19 to 21) adjudged, after full trial of all the issues before a Special Master and full review by the District Judge in concurring holdings, that claims 4, 5, 8, 9, 10, 13, 22 and 23 of patent No. 1,536,044, here in suit, are valid.

This final decree of April 30, 1934 cannot be collaterally attacked in the present case. The burden was on the appellant in the first case, The Reeke-Nash Company, to establish error in the decision below and obtain a contrary decision. The mere filing of an appeal is not such action as will suspend or revoke the operation of the judgment as an estoppel (*Deposit Bank v. Frankfort*, 191 U. S. 499, 510; *Straus v. American Publishers' Assoc.*, 201 Fed. 306, 310). Likewise appeal proceedings which are never perfected do not deprive the judgment of its force as an estoppel (*Hubbell v. United States*, 171 U. S. 203, 210). The reason is the same in both instances: the parties have had their day in court, and the courts cannot be imposed upon to re-trial the issues unless and until the appellant obtains a decision that the adjudication of the trial court was erroneous.

If all or part of the plaintiff's claim is dismissed without prejudice before trial the action is inconclusive and there is no estoppel, because there was no estoppel before and the inconclusive action does not change the pre-existing status.

In the instant case a new status between the parties was created by the final decree of April 30, 1934 adjudicating that all of claims 4, 5, 8, 9, 10, 13, 22 and 23 of patent No. 1,536,044 are valid. This adjudication became binding upon the defendant and its privies unless and until the defendant should, by appeal or proper proceedings in that case, obtain a new adjudication that the decision below was erroneous, which new adjudication in turn would conclude

both parties as to the issue decided. An inconclusive action which does not bind either party cannot create an estoppel and therefore such an action cannot diminish or destroy an estoppel already existing. Otherwise the salutary and necessary rule that parties can have but one day in court would be breached, and the door would be opened to endless litigation.

The Sixth Circuit Court of Appeals on defendant's appeal in the *Reeke-Nash* case affirmed the decree of April 30, 1934 as to part of the claims, and as to all of the relief sought by plaintiff, and made no decision with respect to the other claims of which the defendant complained in its appeal. The appellant was the moving party, seeking affirmative action, a reversal, and it failed to make its motion good on any issue. The Court of Appeals found no error whatever in the final decree of April 30, 1934. The Court said, 88 Fed. (2) 888:

"Appellant contends that the method claims of patent No. 1,536,044 are invalid because they describe merely the function of the manifold. Since as to infringement one royalty is appropriate compensation for breach of appellee's monopoly no matter upon how many bases that monopoly rests, *Reo Motor Car Co. v. Gear Grinding Machine Co.*, 42 F. (2d) 965 (C. C. A. 6); *Firestone Tire & Rubber Co. v. United States Rubber Co.*, 79 F. (2d) 948 (C. C. A. 6), we find it unnecessary to pass upon their validity or the question of their infringement.

Decree affirmed as to claims 13 and 20 of patent No. 1,536,044, and claims 5 and 7 of patent No. 1,636,721. The bill is dismissed as to all other claims, without prejudice."

The appellant, which had the burden, failed to obtain any affirmative action on its attack on the part of the decree holding the method claims valid. As to the issues which were considered, the court affirmed. Appellant failed on every point of its appeal.

In *City of Aurora v. West*, 7 Wall. 82, this Court held that an inconclusive action by an Appellate Court did not deprive the trial court's adjudication of its effect as an estoppel. This Court said, 19 L. Ed., p. 46:

"Undoubtedly, the view of the pleader was to set up an estoppel against the matters pleaded by the plaintiffs in their first, second, fifth, sixth and eighth replications, and to claim the benefit of the rule that an estoppel against an estoppel opens up the whole matter and set its at large; but the insuperable difficulty in the way of the attempt to apply that rule, even supposing that the former judgments are pleaded as technical estoppels, is, that the matters pleaded in the rejoinder do not amount to an estoppel, as they merely show that the judgment for the plaintiff, as recovered in that case in the court of original jurisdiction, was reversed in the appellate tribunal, and that the cause was remanded to the subordinate court for further proceedings. Second trials often result in the same way as the first, and certainly the reversal of the judgment, under the circumstances shown in the allegations of the rejoinder, is not conclusive evidence that the plaintiffs may not ultimately recover. Unless a final judgment or decree is rendered in a suit, the proceedings in the same are never regarded as a bar to a subsequent action. Consequently, where the action was discontinued, or the plaintiff became nonsuit, or where from any other cause, except, perhaps, in the case of a retraxit, no judgment or decree was rendered in the case, the proceedings are not conclusive. *Wood v. Jackson*, 8 Wend., 9; *Reed v. Locks & Canals*, 8 How., 274; *Regina v. St. Anne*, 9 Q. B., 884; *Greely v. Smith*, 1 W. & M., 181; *Knox v. Waldborough*, 5 Me., 185; *Hull v. Blake*, 13 Mass., 155; *Sweigart v. Berk*, 8 S. & R., 305; *Bridge v. Sumner*, 1 Pick., 371; 2 *Taylor, Ev.*, sec. 1528; *Harvey v. Richards*, 2 Gall., 231; *Ridgley v. Spenceer*, 2 Binn., 70."

The decision relied upon by the defendant in its rejoinder being inconclusive, the plaintiffs' replication setting up a final judgment in its favor was good and the special pleas were barred.

The same result follows from a consideration of this Court's decision in *Durant v. Essex*, 7 Wall. 107, 19 L. Ed. 154. In that case a dismissal in an earlier suit was appealed to this Court and affirmed by a divided court. The Bill of Complaint in the cited case proceeded on the theory that the decree by a divided court in the previous case was not valid and that the plaintiff was not concluded. In overruling this contention and holding that the judgment of dismissal in the previous case was a bar this Court said, 19 L. Ed. 156:

"It has long been the doctrine in this country and in England, where courts consist of several members, that no affirmative action can be had in a cause where the judges are equally divided in opinion as to the judgment to be rendered or order to be made. If affirmative action is necessary for the further progress of the cause, the division operates as a stay of proceedings. If the affirmative action sought is to set aside or modify an existing judgment or order, the division operates as a denial of the application, and the judgment, or order, stands in full force, to be carried into effect by the ordinary means."

and page 157:

"In cases of appeal or writ of error in this court, the appellant or plaintiff in error is always the moving party. It is affirmative action which he asks. The question presented is, shall the judgment, or decree, be reversed? If the judges are divided, the reversal cannot be had, for no order can be made. The judgment of the court below, therefore, stands in full force. It is, indeed, the settled practice in such case to enter a judgment of affirmance; but this is only the most convenient mode of expressing the fact that the cause is finally disposed of in conformity with the action of the court below, and that that court can proceed to enforce its judgment. The legal effect would be the same if the appeal, or writ of error, were dismissed.

The Antelope, 10 Wheat., 66, and Etting v. Bk. of the U. S., 11 Wheat., 59, are cases where the decisions

of the court below, or some part of them, were affirmed upon a division of the judges, and a term seldom passes in which there are not several cases disposed of in this way. In *Brown v. Aspden*, 14 How., 28, Chief Justice Taney observed that there was no difference between a decree in chancery and a judgment at law as to its affirmance on a division of the court. '**In both cases,' he said, 'the motion is to reverse, and if that fails, the judgment, or decree, necessarily stands.'**'

The reasoning upon which that decision depends is conclusive of this case. The Reeke-Nash Company sought affirmative action from the Sixth Circuit Court of Appeals to reverse the final decree of April 30, 1934 adjudging the method claims valid. The appellant failed to obtain such affirmative action and thus failed to make good its appeal or to establish error in the decree below.

As the Court said in *Durant v. Essex*, it is the substance and not the form of the order which controls. The appellant in the *Reeke-Nash* case failed to obtain the affirmative action which it sought, reversing the decree below. The language used by the Court in stating that it declined to pass upon the issue cannot control.

The relation of the parties is illustrated by another consideration. A party cannot appeal from or complain of a decree in his favor. Thus petitioner could not appeal from the decree of the District Court of April 30, 1934 which decided in petitioner's favor every issue in the case. No more could petitioner seek a review of the Court of Appeals decision (88 Fed. (2d) 876) since the court while affirming on only part of the claims specifically held that it was granting petitioner all of the relief sought. The burden clearly was on the defendant in that case to ask the Court of Appeals by petition for rehearing to consider and decide on its objections to the portion of the decree holding the method claims and claim 22 valid if defendant still believed that its attack on the decree was correct. The failure of the Court of Appeals to rule on the validity of

these claims could also have been corrected by petition to this Court if the defendant had considered its attack on the validity of these claims sound.

The defendant in the former case, the Reeke-Nash Company, did in fact file a petition for rehearing but did not again urge upon the court its attack upon the portion of the decree holding the method claims and claim 22 valid or ask for a decision on these claims. The Reeke-Nash Company also petitioned this Court for certiorari from that decision (302 U. S. 691, No. 56, Oct. Term, 1937) but in its petition did not repeat its attack upon these claims and did not complain of the failure of the Court of Appeals to reverse this portion of the decree below.

The Sixth Circuit Court of Appeals, in recognizing the estoppel as to part of the claims and ignoring it as to others, has gone beyond the pleadings, which raise only the question of privity.

In the Bill of Complaint in this case it was pleaded that the suit of petitioner against The Reeke-Nash Company had been defended by the National Automobile Chamber of Commerce (R. Vol. I, pages 10 and 11) and that respondent was a privy of The Reeke-Nash Company and was estopped to re-litigate any of the questions decided by said final decree of April 30, 1934 (R. Vol. I, p. 14). In its answer defendant denied that it was in privity with The Reeke-Nash Motors Company but did not otherwise specifically deny the elements or scope of the estoppel (R. Vol. I, pages 32 to 34). Respondent admitted that the decree of April 30, 1934 is final, and that it holds valid all the claims here involved (R. Vol. I, p. 7, Par. 15, p. 32, Par. 15). This admission has never been amended or withdrawn.

Petitioner's Supplemental Bill of Complaint specifically pleaded that the decision of the Court of Appeals affirmed the decree of April 30, 1934 (R. Vol. I, p. 38, Par. 4). Respondent admitted Paragraph 4, pleading the af-

firmance of the final decree of April 30, 1934 (R. Vol. I, p. 42).

At a separate trial on the issue of *res judicata* the District Court found that the *Reeke-Nash* case had been defended by the National Automobile Chamber of Commerce of which respondent was a member, for the benefit of respondent and the other members and concluded from the facts found that respondent, Chrysler Corporation, is, and was throughout the pendency of the *Reeke-Nash* case, in privity with the defendant there, Reeke-Nash Motors Company (R. Vol. I, pages 128 to 133). The Sixth Circuit Court of Appeals did not disturb the District Court's findings that respondent is in privity with The Reeke-Nash Motors Company.

In the *Reeke-Nash* case the special master found that the suit was being defended by the National Automobile Chamber of Commerce for the benefit of the members, including respondent here (II R. N. 1128, Appendix, p. 28), and that the various members of the National Automobile Chamber of Commerce are privies to defendant, the Reeke-Nash Company (II R. N. 1129, Appendix p. 29). The Sixth Circuit Court of Appeals did not disturb these findings. Thus the tribunals below are uniform in finding the facts establishing privity and in concluding that respondent is in privity with the Reeke-Nash Company and is, therefore, bound by the decree in that case.

POINT G.

Aside from the question of *res judicata*, the ruling of the Sixth Circuit Court of Appeals that claims 4, 5, 8, 9, 10 and 22 of patent No. 1,536,044 are invalid is in conflict with the decisions of all other tribunals who have ruled upon these claims.

These claims in the form in which they appear in the patent were substituted by amendment of the application for the original claims. The claims were written in

their present form in accordance with the suggestion of the Patent Office "to better accord with the Official view" (IV R. N. p. 2063).

After patent No. 1,536,044 in suit had issued the Patent Office declared an interference between this patent and another application. Method claim 4 in suit was count 4 of that interference (IV R. N. pp. 2083-2084). The Patent Office provides only for interferences on common *patentable* subject matter claimed by a plurality of inventors. (*Ewing v. Fowler Car Co.*, 244 U. S. 1, 7.)

Thus the method claims in suit were cast in their present form at the suggestion of the Patent Office Examiners. After the issuance of the patent an interference was declared on one of the method claims in suit, requiring a further determination by the Patent Office that that claim is patentable and is not invalid on its face.

The Special Master in *Swan v. Reeke-Nash*, who watched the tests demonstrating the action of the mixture in the manifolds, held that the method claims in suit constitute patentable subject matter, independent of the apparatus, based upon the employment of the natural forces and held all of the claims valid against all of the defenses urged here (II R. N. pp. 1130-1133, 1146-1148; Appendix, pp. 30-33, 46-48). This finding against a privy of respondent here was never reversed, although attacked in the Court of Appeals. The District Court in the instant case did not find any of the claims in suit invalid. Numerous licensees recognized the validity of the patent by taking licenses and paying royalties thereon. The General Motors Corporation retained its license under the patent in suit throughout the life of the patent while contesting at great expense its obligation to pay royalties, although it could at any time have cancelled the license on thirty days notice and contested the validity of the patent if it had chosen to do so (42 Fed. (2d) 454).

POINT H.

The accepted interpretation of this Court's decisions on method or process claims is stated as follows in *Walker on Patents*, Deller's Edition, Vol. I, pp. 39 to 41:

"The generic definition of a process is an operation performed by rule to produce a result. Processes may be classified in the following classifications: (1) operations which consist partly or wholly in the employment of heat, light, electricity, magnetism, chemical action, pneumatics, hydraulics, or some other force producing physical change; (2) operations which consist entirely of mechanical transactions, and which are only the peculiar functions of the respective machines which are constructed to perform them; (3) operations which consist entirely of mechanical transactions, but which may be performed by hand or by any of several different mechanisms or machines. *It is settled that all processes which belong to class (1) are subjects of patents.* (Cochrane v. Deener, 94 U. S. 780, 24 L. Ed. 139 (1877); * * * Eames v. Andrews, 122 U. S. 40, 30 L. Ed. 1064 (1887); Fermentation Co. v. Maus, 122 U. S. 413, 427, 30 L. Ed. 1193 (1887); * * * and that all processes which belong to class (2) are unpatentable in the United States * * * (citing authorities). It was formerly debatable whether processes which belong to class (3) are subjects of patents or not, but the question has finally been definitely settled in the affirmative. (Kahn v. Starrells, 135 Fed. 532, C. C. A. 3 (1905); General Subconstruction Co. v. Netcher, 174 Fed. 236, C. C. A. 7 (1909); Expanded Metal Co. v. Bradford, 214 U. S. 366, 53 L. Ed. 1034 (1909).)"

In other words, under the accepted interpretation the issue as to whether or not a process may be carried out in apparatus other than that disclosed in the patent does not arise in connection with processes involving the employment of electrical or chemical action, pneumatics, hydraulics or similar natural forces, but only in connection with those processes which consist entirely of mechanical transactions.

The method claims in suit include the steps of moving the mixture in a straight line to a zone from which it is distributed to the engine cylinders, directing the movement by forces (the gas pressure resulting from the suction strokes of the cylinders and the inertia acquired by the liquid particles in their movement in a straight line) which tend to distribute the mixture uniformly in all directions from the zone, and further directing the movement by forces (the gas pressure and inertia forces) moving it from the zone successively in different directions transverse to the initial movement. Claims 5, 8 and 10 include the additional step of subjecting the mixture to forces (the gas pressure and inertia forces) at changes in direction which act to prevent impairment of the character of the mixture.

In *Cochrane v. Deener*, 94 U. S. 780, this Court said, pp. 785-786:

"His improvement, therefore, does not consist in using drafts and currents of air, but in the process as a whole, comprising the application of the blast, and the carrying off of the fine impurities, whereby the middlings are purified preparatory to regrinding after being separated from the other parts."

and pp. 787 and 788:

"That a process may be patentable, irrespective of the particular form of the instrumentalities used, cannot be disputed. * * * A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing."

In *Eames v. Andrews*, 122 U. S. 40, the process held valid was making a well by driving a tube into the ground, permitting a new action of the forces of gravity and atmospheric pressure.

In *Fermentation Co. v. Maus*, 122 U. S. 413, the process was in holding beer under controllable pressure of the carbonic acid gas which it generates throughout the kraeu-sen stage, instead of only near the end of that stage, as theretofore done. This Court said, page 428:

"This is, as was said in *Cochrane v. Deener*, 'a mode of treatment of certain materials to produce a given result,' and 'an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing,' and 'requires that certain things should be done with certain substances, and in a certain order.' It is, therefore, a process or art. The apparatus for carrying out the process is of secondary consequence, and may itself be old, separately considered, without invalidating the patent, if the process be new and produces a new result."

POINT I.

In holding the method claims 4, 5, 8, 9, and 10 invalid as being indefinite the Sixth Circuit Court of Appeals has erroneously extended this Court's decision in *General Electric v. Wabash*, 304 U. S. 364. In that case this Court was dealing with a claim to a product, a lamp filament. The problem was to make a filament which would neither slip nor sag. The claim in substance was for a filament having grains of such size and shape that they do not slip or sag. The invention there was in doing something to the grains so that they would avoid the evils of the prior art, but all that the claim recites is that the product does not have those evils.

A method claim must necessarily be intangible, for the method or art consists of acts or the doing of certain things. This field of invention is wholly distinct from products, such as considered by the court in the cited case, in which the invention must necessarily be in the tangible features of the contour of the grains. As this Court said, p. 373:

"It may be doubted whether one who discovers or invents a product he knows to be new will ever find it impossible to describe some aspect of its novelty."

The forces which act in the Swan method are the forces of gas pressure resulting from the suction of the engine and the inertia of the liquid particles. These forces are disclosed in the specification. Swan did not invent them, and to require them to be detailed in the claims is in conflict with *Cochrane v. Deener*, 94 U. S. 780, where the claim said "applying air currents" and did not give their source; and with *Eames v. Andrews*, 122 U. S. 40, where the claim did not mention the forces of gravity and atmospheric pressure.

The invention is in the acts which are performed by means of the forces. No complaint is made as to the definiteness of the acts which constitute the method of the invention.

The court below also held that the claims are faulty because they do not describe how the forces operate. To impose such a requirement on a claim would in many instances such as the present one make it impossible to claim a valuable invention. As stated by the Master in *Swan v. Reeke-Nash*, II R. N., page 1141, Appendix page 41:

"The operation of the forces as pictured by defendant's tests was unknown to plaintiff's expert,"

Even today no two experts can agree in describing how the forces operate. The requirement which the decision of the court below would impose upon the patentee is in direct conflict with the rule established in numerous decisions by this Court that an inventor need not describe, or even know, the scientific explanation of the operation of his invention. In *Eames v. Andrews*, 122 U. S. 40, 55, 56:

"It is to be observed that the scientific theory and principle, the application of which is supposed to constitute the invention of Colonel Green, are not set

forth either in the original or reissued patents. This feature was commented upon by Mr. Justice Blatchford in *Andrews v. Cross*, 19 Blatchford, 294, 305, as follows: 'It may be that the inventor did not know what the scientific principle was, or that, knowing it, he omitted, from accident or design, to set it forth. That does not vitiate the patent. He sets forth the process or mode of operation which ends in the result, and the means for working out the process or mode of operation. The principle referred to is only the why and the wherefore. That is not required to be set forth. * * * An inventor may be ignorant of the scientific principle, or he may think he knows it and yet be uncertain, or he may be confident as to what it is, and others may think differently. All this is immaterial, if by the specification the thing to be done is so set forth that it can be reproduced.'

The rule is summarized by the Supreme Court in *Diamond Rubber v. Consolidated Tire*, 220 U. S. 428 (1911) which involved rubber tires, where MR. JUSTICE MCKENNA says, at pp. 435-436:

"And how can it take from his merit that he may not know all of the forces which he has brought into operation? It is certainly not necessary that he understand or be able to state the scientific principles underlying his invention, and it is immaterial whether he can stand a successful examination as to the speculative ideas involved. (Citing the Driven Well case, *supra*, Cleveland Foundry Co. v. Detroit Vapor Stove Co., *supra*, and others.) He must, indeed, make such disclosure and description of his invention that it may be put into practice."

POINT J.

The Sixth Circuit Court of Appeals ruled as follows on claim 22, R. Vol. V, p. 1858:

"Claim 22 of patent 1,536,044, relates to the part of the roof of the header which is opposite the riser and requires it to be 'symmetrically formed and situated with reference to the outlets to uniformly influence

entering mixture and cause the same to distribute in uniform character in the successive directions determined by the outlets and induction cycles of the engine.'

* * * * *

The claim describes the added element in terms of function and result, and hence is invalid."

In *Gilchrist Co. v. Kar-Lac Co.*, 29 Fed. (2d) 153, the Seventh Circuit Court of Appeals held, page 154:

"Invalidity is urged here on the further ground that the Gilchrist patent is an attempt to monopolize an abstraction. This contention must fail. All of the claims are in terms of structure, and the patent embraces only the device by which the new result is made possible, and lays no claim to the result or function of the combination. That some of the elements of the combination are claimed in terms of 'means' defined in terms of function is not objectionable in combination claims. *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U. S. 405, 422, 28 S. Ct. 748, 52 L. Ed. 1122."

In *Research v. Chase*, 88 Fed. (2d) 353, the Seventh Circuit Court of Appeals said, page 354:

"So it is insisted that the language of the claim, 'so arranged that when the blade is in contact with the metal of the can, the first forward movement of the traction wheel will cause the blade to puncture the can, and as the movement continues the blade will shear the metal of the can,' does not comply with the

† The omitted sentence attributing certain statements to petitioner's expert is erroneous, but immaterial to the functional claim question. Respondent asserted to the Court of Appeals that petitioner's expert had stated there was no substantial difference between the wall opposite the riser in Swan and in the prior art. This statement was incorrect. The comparison was between the accused manifold and the Reeke-Nash manifolds adjudicated to infringe the patent in suit and the testimony is that they are the same (R., Vol. I, pages 348 to 349).

statute and constitutes a claim functional in character without specific teaching as to the solution of the problem. However, we observe that in his description and specifications, Chase made full disclosure of every step taken by him. * * * So, it seems to us, upon reading the claims and description, any person skilled in the art to which they appertain, could make, combine and use the same, as contemplated by law. The language used by this court in *Gilchrist Co. v. Kar-Lac Co.*, 29 F. (2d) 153, 154, is in point."

The same rule was followed by the Seventh Circuit Court of Appeals in *Apex v. Maytag*, 122 Fed. (2d) 182, 186 (Cert. denied 314 U. S. 687).

In *Buono v. Yankee Maid*, 77 Fed. (2d) 274, the Second Circuit Court of Appeals held, page 277:

"The only debatable matter is of the language of the claims themselves; it is the old question of how far a claim may safely be cast in terms of function. * * * The other elements of claim 6 except a single one are in mechanical terms referable to the disclosure, and are clearly not functional. The exception is, 'operating means connected to said eccentric device and turning said pivoted device at predetermined intervals.' This too is readily enough identified by the disclosure, and though it does speak in terms of function that is inevitable to some degree, if the claim is to have any generality whatever. The very test of equivalency is in terms of function, 'the same result by the same means'; and it is only by recourse to that standard that a patentee can pass beyond the very details of his disclosure. * * * In the case at bar the phrase was justified because the invention did not reside in the mechanical train connecting the eccentric with the table, but in a train which should tilt it at intervals longer than the oscillations of the rib. The details not being important, the general notion so embodied the inventors might protect."

In the instant case the ruling of the Sixth Circuit Court of Appeals is that the claim is invalid because one

of the elements of the combination is defined in functional terms. This is directly contrary to the rule followed by the Seventh Circuit in the above cited cases to the effect that defining an element of a combination in functional terms does not invalidate the claim. This rule as stated by the Seventh Circuit Court of Appeals is based on this Court's decision in *Continental Paper Bag Co. v. Eastern*, 210 U. S. 405. In that case this Court held valid claim 2 of the patent (210 U. S. 417) which is for a combination of eight elements, all but one of which are defined in functional terms.

POINT K.

In *Swan v. General Motors*, 42 Fed. (2) 452, JUDGE WESTENHAVER said, p. 455:

"Swan sought to solve the problems so stated and discussed. He did so, in my opinion, by introducing a new and original principle of operation."

In *Swan v. Reeke-Nash* the Special Master found (II R. N., page 1117, Appendix, p. 17):

"Swan is a pioneer in the patented method for distributing wet fuel mixtures as distinguished from dry mixtures and nowhere does the prior art show any recognition or realization of the solution of this problem which Swan solved by his patented method."

The Special Master concluded (II R. N., page 1127, Appendix, p. 27):

"That the patent in suit No. 1,536,044, is a basic patent and defines and covers a pioneer invention or inventions, and is entitled to a liberal interpretation and a broad range of equivalents."

In affirming, the Court of Appeals for the Sixth Circuit held, 88 Fed. (2d) 887:

"Whether or not patent No. 1,536,044 described a pioneer invention, as in effect held in the General Motors Case (42 F. (2d) 452), under the specifica-

tions, which are to be read with the claims, though they may not expand or limit them, Swan is entitled to a range of equivalents broad enough to cover appellant's manifolds. Cf. Bishop & Babcock Mfg. Co. v. Fulton Co., 37 F. (2d) 293 (C. C. A. 6). This is true even as to claims 11, 12 and 13, in which, as in the other claims, the gist of the inventive concept was the creation of the maximum turbulence as above described, not restricted to any particular form. Cf. United Shoe Machinery Corp v. O'Donnell Rubber Products Co., 84 F. (2d) 383 (C. C. A. 6)."

The District Court in the Fourth Circuit case quoted and followed the above statement of the Sixth Circuit Court of Appeals, 25 Fed. Supp. 29.

In the final suit against General Motors Corporation a Special Master (Mr. Friebolin) concluded that Swan was not a pioneer. JUDGE NEVIN reversing this ruling said (43 Fed. Supp. 499, 503):

"In his report (p. 13) the Special Master says: 'I conclude however that the evidence does not show that the advance made by Swan entitles this patent to be considered as a pioneer patent.' The court finds itself unable to agree with this conclusion of the Special Master. Judge Westenhaver found that Swan introduced 'a new and original principle of operation.' 42 F. (2d) 455. In the Reeke-Nash case the Special Master (Mr. Woods) held as a conclusion of law: '(3) That the patent in suit, No. 1,536,044, is a basic patent and defines and covers a pioneer invention or inventions, and is entitled to a liberal interpretation and a broad range of equivalents.' His (Special Master Woods') report was confirmed by Judge Hahn of this Court. This Court agrees with this conclusion of Special Master Woods and Judge Hahn."

The District Court in the instant case made no finding or conclusion on this question. The Court of Appeals in the instant case in effect departed from their previous

ruling by holding that the prior art may be modified to justify infringement, thus differing from all the previous District Courts who have ruled on this issue, each of which has held Swan to be a pioneer.

The rule has been established by the decisions of this Court that the first to invent an apparatus or method for performing a particular method is a pioneer. (*Morley v. Lancaster*, 129 U. S. 263; *Hildreth v. Mastoras*, 257 U. S. 27.) Under this rule Swan is a pioneer. He was the first to uniformly distribute to the cylinders a wet mixture, which is the fuel automobiles have had to use since about 1911.

POINT L.

The Court of Appeals for the Sixth Circuit, in its opinion in this case, gave no weight to the findings of the Special Master in the *Reeke-Nash* case, adopted by the District Court, in holding claims 4, 5, 8, 9, 10 and 22 invalid and in finding claims 13 and 23 not infringed. The court referred to the *Reeke-Nash* case in a footnote (R. Vol. V, page 1852) as follows:

“In a patent infringement case consolidated therewith [Reeke-Nash Motors Co. v. Swan Carburéfor Co., 88 Fed. 2d at 885], claims 13 and 20 of patent 1,636,721 and claims 5 and 7 of patent 1,536,044 were held valid and infringed. The validity of other claims, including that of the method claims of patent 1,536,044, was not passed upon and as to such other claims the bill was dismissed without prejudice.”

Rule 52 provides:

“Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses. The findings of a master, to the extent that the court adopts them, shall be considered as the findings of the court.”

The rule, and the substantial reason of the rule, are not limited to findings of fact made in the particular case considered by the Appellate Court. Normally, it is true, findings of fact in a prior case against the same party or a privy would either have been binding under the doctrine of *res judicata* or would have been reversed. Here, however, the careful and detailed findings by the Special Master in the *Reeke-Nash* case (Appendix, p. 12) against a privy of respondent, covering every issue raised in this case, were adopted by the District Court, were not reversed by the Court of Appeals in that case, but were treated neither as *res judicata* nor as findings under rule 52 by the Court of Appeals in the instant case.

The trial in the *Reeke-Nash* case before the Special Master consumed 40 days. The same Master, Mr. Woods, acted as Commissioner in the second *General Motors* case and heard testimony and watched tests for forty days. The defendant filed eighty-seven exceptions to the report of the Special Master (II R. N., pages 1163 to 1206, inclusive). These exceptions were briefed and argued at length and in full detail before Judge Hahn, who adopted the Master's report in its entirety (R. Vol. I, page 19).

The Master's findings under the plain terms of Rule 52 should "not be set aside unless clearly erroneous." While the courts in the different circuits differ to some extent as to the weight to be given to the trial court's findings of facts there is no dispute that they are at least entitled to substantial weight.

Even before the adoption of the new rules of civil procedure the rule in this Court has uniformly been to accept the findings as mandatory in the absence of a clear showing of error or mistake. In *Tilghman v. Proctor*, 125 U. S. 136, pages 149 to 150:

"In dealing with these exceptions, the conclusions of the master, depending upon the weighing of conflicting testimony, have every reasonable presumption

in their favor, and are not to be set aside or modified unless there clearly appears to have been error or mistake on his part. *Medsker v. Bonebrake*, 108 U. S. 66; *Donnell v. Columbian Ins. Co.*, 2 Sumner 366, 371; *Mason v. Crosby*, 3 Woodb. & Min. 258, 269; *Paddock v. Commercial Ins. Co.*, 104 Mass. 521, 531; *Richards v. Todd*, 127 Mass. 167, 172."

In *Warren v. Keep*, 155 U. S. 265, this Court said, page 267:

"The master acted in view of this evidence, and the court below concurred in his finding, except in some unimportant particulars. As no obvious error or mistake has been pointed out to us, their conclusions must be permitted to stand. *Tilghman v. Proctor*, 125 U. S. 136; *Crawford v. Neal*, 144 U. S. 585; *Furrer v. Ferris*, 145 U. S. 132."

Those who promulgated and approved Rule 52 stated that it was the purpose of this rule to merge the former law and equity practice into the equity practice of *Tilghman v. Proctor, supra*, and *Warren v. Keep, supra*. We think this is clear from the "shall not" proviso of the rule and from the references to these decisions in the official notes to the Federal Rules of Civil Procedure, in connection with Rule 52 (pages 46 and 47).

Respectfully submitted,

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B. D. WATTS,
H. F. McNENNY,

Attorneys for Petitioner.

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Cleveland, Ohio,
Of Counsel.

IN ALL THESE MANIFOLDS THE HEATING UNITS ARE IDENTICAL,
EMPLOY THE SO-CALLED "HOT SPOT"

CHRYSLER CORPORATION MANIFOLDS

Exhibit 201

IN ISSUE

(Other Forms, R. Vol. IV, pp. 1541 to 1565, incl.)

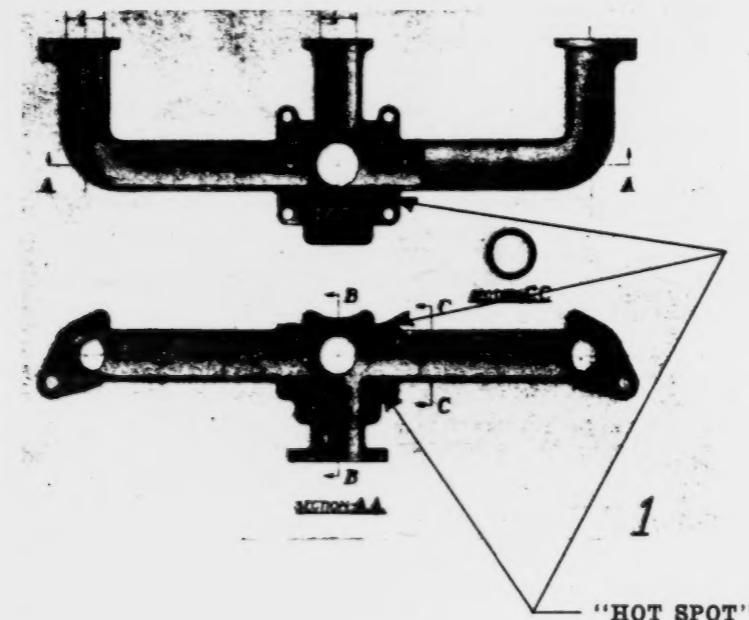


FIG. I

SECOND GROUP OF GENERAL MOTORS MANIFOLDS

Exhibit P

ADJUDICATED TO INFRINGE

G. M. v. Swan, 88 F. (2d) 876 (C. C. A. 6)

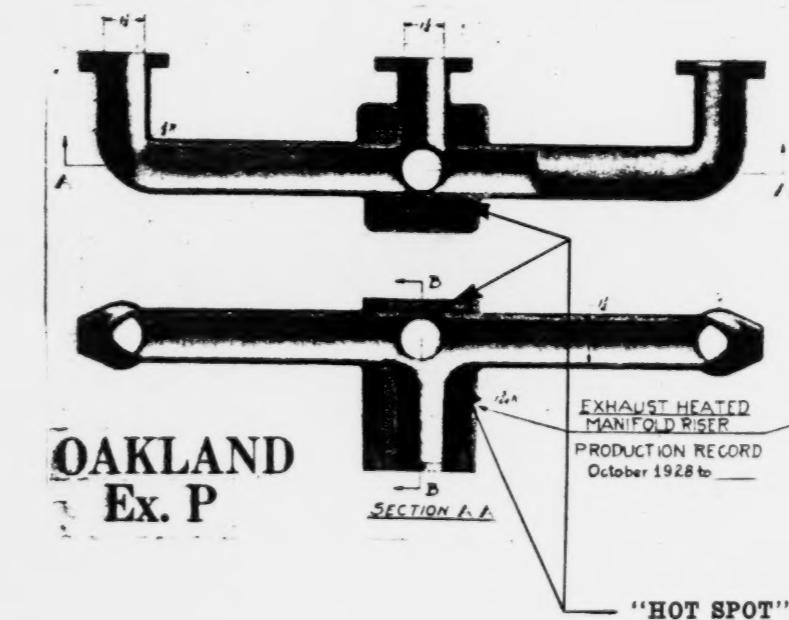


FIG. II

Mr. Woods and Jury (Judge Hahn)

ICAL, THE FUEL USED WAS IDENTICAL, AS WAS THE HEAT, ITS APPLICATION, AND THE MANN 'OT" IN THE SAME WAY; ALL WERE USED ON THE SAME KIND AND TYPE OF ENGINE.

DS SECOND GROUP OF GENERAL MOTORS MANIFOLDS
Exhibit R
ADJUDICATED TO INFRINGE
G. M. v. Swan, 88 F. (2d) 876 (C. C. A. 6)

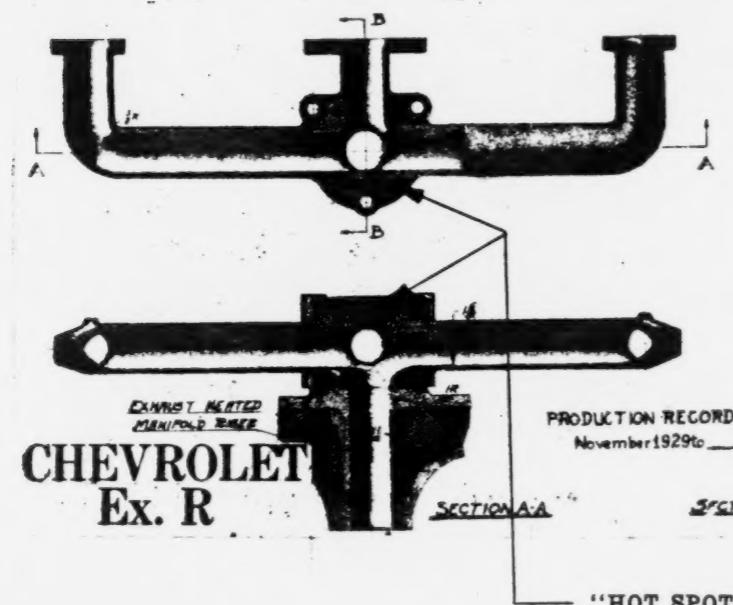


FIG. III

Mr. Woods and Jury (Judge Hahn)

THIRD AND FOURTH GROUPS OF GENERAL MOTORS
MANIFOLDS
Exhibit No. 40-A
ADJUDICATED TO INFRINGE
Swan v. General Motors, 43 F. S. 499

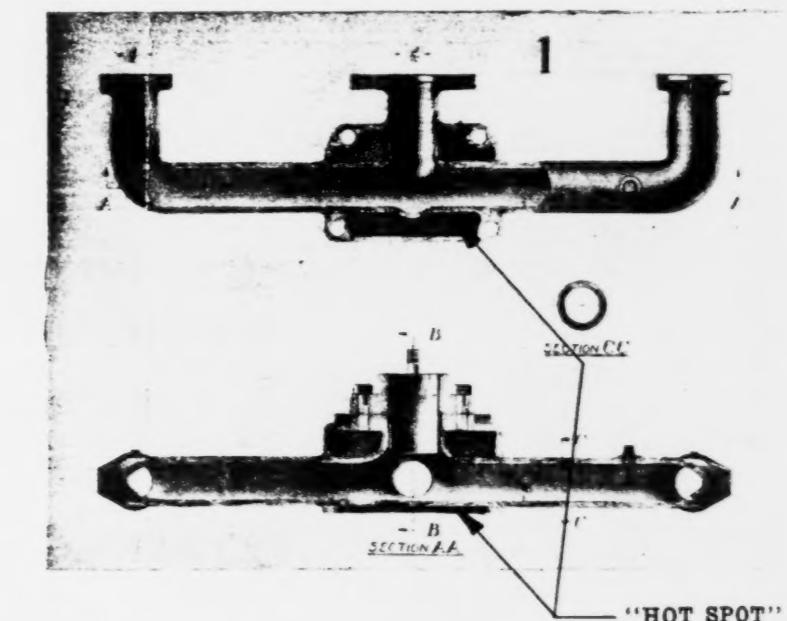


FIG. IV

Mr. Friebolin and Judge Nevin

MANNER OF ITS USE; ALL

S

REEKE-NASH MANIFOLD (AJAX)

Ajax Exhibit 40

ADJUDICATED TO INFRINGE

Reeke-Nash v. Swan, 88 F. (2d) 876 (C. C. A. 6)

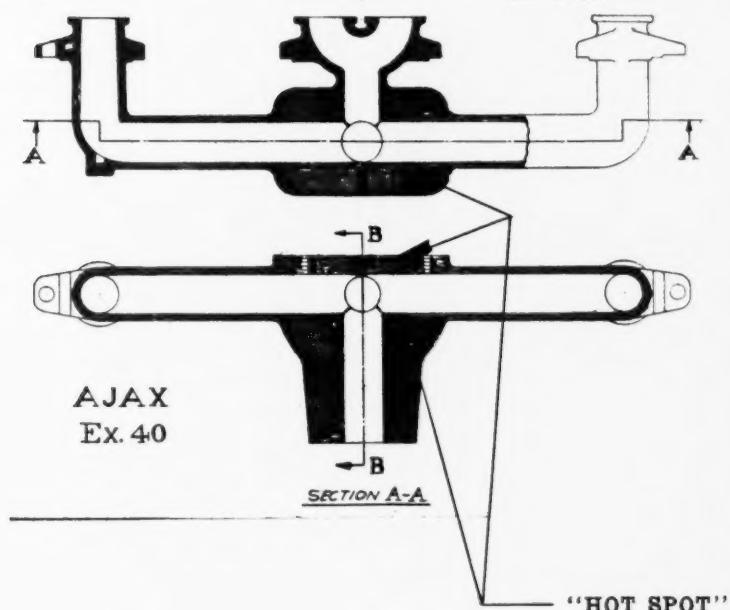


FIG. V

Mr. Woods, Judge Hahn and C. C. A. 6 (88 F. (2d) 885)

